NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD AND SPECIFICATIONS

FIELD BORDER

(Feet)
CODE 386

DEFINITION

A strip of permanent vegetation established at the edge or around the perimeter of a field.

PURPOSES

This practice may be applied as part of a conservation management system to support one or more of the following:

* Reduce erosion from wind and water.

* Protect soil and water quality.

* Manage harmful insect populations.

* Provide wildlife food and cover.

* Increase carbon storage in biomass and soils.

* Improve air quality.

CONDITIONS WHERE PRACTICE APPLIES

At the edges of cropland fields and to connect other buffer practices within the field. May also apply to recreation land or other land uses where agronomic crops are grown.

CRITERIA

General Criteria Applicable to All Purposes

The intended use will determine the width of field borders. Minimum border widths shall be based on local design criteria specific to the purpose or purposes for installing the practice.

Field borders shall be established around the field edges to the extent needed to meet the resource needs and producer objectives.

The width of the border may be increased wider than the minimum width to accommodate larger machinery. Border widths for all purposes in excess of the minimum width will be determined by the planner based on existing site conditions and the intended use.

Borders will be established to adapted species of permanent grass, legumes, and / or shrubs. Plant materials, seedbed preparation, planting methods, and seeding rates, dates, and depth will be consistent with approved local criteria and the desired purpose or purposes for installing the practice.

Select herbaceous and woody species that are suited to the site conditions and components of a mixture that are compatible. Refer to the CONSERVATION COVER (327), CRITICAL AREA PLANTING (342) or PASTURE AND HAYLAND PLANTING (512) standards for site and species compatibility tables of herbaceous cover. Refer to the UPLAND WILDLIFE HABITAT MANAGEMENT (645) standard for guidance on woody shrub cover.

Ephemeral gullies and rills present in the planned border area will be smoothed and eliminated as part of seedbed preparation.

The field border must be maintained in a condition to meet the owner's objectives and the purpose for installing the practice. Herbaceous borders shall be burned, mowed, or sprayed with a selective herbicide as necessary to control invasive woody vegetation. Light disking can be

used on non-erosive sites to manage sprouting of invasive woody vegetation.

Additional Criteria to Reduce Erosion from Wind and Water

The minimum width of a field border to reduce erosion will be 20 feet.

Select species and seeding rates from Table 2 in the CRITICAL AREA PLANTING (342) standard that are rated good to excellent for erosion control. Follow the procedures in the CRITICAL AREA PLANTING (342) standard for the establishment of an adequate stand of vegetation for this purpose.

Wind Erosion Reduction:
Locate borders around the entire perimeter of the field, or as a minimum, provide a stable area on the upwind edge of the field as determined by the prevailing wind direction.

Establish stiff-stemmed, upright grasses to trap saltating soil particles. The minimum height of the perennial vegetation shall be one foot prior to and during the local critical erosion period.

Water Erosion Reduction:
Locate borders around the entire perimeter of the field, or as a minimum, install borders to eliminate sloping end rows, headlands, and other areas where concentrated water flows will enter or exit the field.

Tillage and planting of annual row crops up and down the slope at the ends of contours is not recommended. For slopes equal to or exceeding 5 percent, field borders will be established if the field is planted on the contour and tilled row crops are included in the rotation.

Additional Criteria to Protect Soil and Water Quality

The minimum width of a field border to protect soil and water quality will be 20 feet.

Follow the procedures in the CRITICAL AREA PLANTING (342) standard for the establishment of an adequate stand for this purpose. Select species that provide good to excellent ground cover during the entire year.

Reducing Runoff and Increasing Infiltration:
Locate borders around the entire perimeter of the field, or as a minimum, install borders to eliminate sloping end rows, headlands, and other areas where concentrated water flows will enter or exit the field.

Maintaining Field Setback Distances for Manure and Chemical Applications:
Setback distances for manure or pesticide applications may be a combination of annually planted crops, forage crops and/or permanent vegetation. Border widths of permanent vegetation will be designed to conform to the minimum strip widths established by state or local regulations.

Sediment Trapping:
Locate borders around the entire perimeter of the field, or as a minimum, in areas where runoff enters or leaves the field.

Reducing Soil Compaction from Equipment Parking and Traffic:
Border widths will be designed and established to accommodate equipment parking, loading or unloading equipment, crop harvest operations, or maintenance of buffer areas.

Additional Criteria to Manage Harmful Insect Populations

The minimum width of a field border to manage insect populations will be 20 feet.

Establish insect areas according to the PASTURE AND HAYLAND PLANTING (512) standard. Include the border area in any field scouting for pests.

Provide a Harbor for Beneficial Insects:
Include herbaceous plants that attract or provide quality habitat for beneficial insects. See planning considerations for including shrubs.

Mowing, harvesting, and pesticide applications will be scheduled to accommodate the life cycle requirements of the beneficial insects.

Provide a Habitat to Cause Pest Insects to Congregate:
Select plants for the border that attract pest insects.

Use mechanical, cultural, and/or chemical techniques to reduce pest populations when and where they congregate in the field border.

Additional Criteria to Provide Wildlife Food and Cover

The minimum width of a border specific for wildlife habitat is 30 feet. Select herbaceous species that are rated good to excellent for wildlife cover and establish according to the CONSERVATION COVER (327) standard. Shrubs may be planted for habitat structure.

A wildlife border will not be used as an equipment or vehicle travel lane. Use of these borders for turning will be kept to a minimum during the avian nesting period from May 1 through July 15.

If haying is a management decision for wildlife borders, vegetation will be cut and removed between July 15 and August 15. Develop a site specific management plan to protect desired wildlife species.

Vegetative disturbances such as prescribed burning and light disking should occur no oftener than once every three years for the greatest wildlife benefit while maintaining the stand of vegetation. Disturb no more than one-third of the field border area each year.

Where erosion is not a concern, an effective wildlife border can be established by natural regeneration. This process is slower than establishment by planting and the land user has less control over plant species selection. Natural regeneration will encourage a greater diversity of annual and perennial plants and better structural cover for wildlife species. This technique should only be attempted when noxious weeds do not exist in the natural seed bank.

Additional Criteria to Increase Carbon Storage in Biomass and Soils

Establish plant species that will produce the greatest above and below ground biomass for the site conditions.

Additional Criteria to Improve Air Quality

Establish plant species with foliar and structural characteristics that optimize interception, adsorption, and absorption of airborne particulates.

Shrub rows will be oriented as closely as possible to perpendicular to the prevailing wind direction during the period of concern.

CONSIDERATIONS

The long term objectives of the land user and the sites concerns are important considerations in the selection of the vegetative cover. Native species should be used when feasible. Wildlife enhancement and other benefits of native plants should be discussed during the planning process.

If erosion control is a secondary purpose, select species to plant in the mixture that have erosion control benefits such as sod forming grasses.

Field borders are more effective and provide more environmental benefits when planted around the entire field. Borders enhance the aesthetics, provide stability, reduce airborne dust, and provide turn and travel areas for equipment around the field edge.

To increase trapping efficiency, consider establishing a narrow strip of stiff-stemmed upright grass at the crop and field border interface.

Field borders can be used to comply with required field setback distances applicable to manure and chemical applications.

Wildlife enhancement and other benefits of native plants should be discussed during the planning process. Native species should be established when feasible and meet producer objectives.

Consider overseeding the border with perennial legumes for plant diversity and wildlife benefits.

Schedule mowing, harvesting, and weed control to accommodate wildlife nesting needs and other special purposes.

Waterbars or berms may be needed to breakup or redirect concentrated water flows within the borders.

Consider plants tolerant to sediment deposition and pesticides used in the crop rotation.

Select fibrous, deep-rooted plants when bank stabilization is a concern.

Rows of shrubs adjacent to field borders will often enhance the borders ability to harbor beneficial insects and may also provide additional wildlife benefits. Developing covey headquarters and edge feathering adjacent to field borders will provide additional wildlife benefits.

If installation or maintenance of the practice has potential of affecting cultural resources (archaeological, historic, historic landscape, or traditional cultural properties), follow NRCS state policy and procedures for considering these resources.

Consider using plant species that enhance the biomass collection opportunities. Increasing the width of the field border will increase the potential for carbon sequestration.

PLANS AND SPECIFICATIONS

Site specifications for establishment and maintenance of this practice shall be prepared for each field or treatment unit according to the Criteria, Considerations, and Operation and Maintenance described in this standard.

Site specifications shall be recorded using approved specification sheets, job sheets, narrative statements in the conservation plan, or other acceptable documentation.

OPERATION AND MAINTENANCE

Field borders require careful management and maintenance for performance and longevity.

Maintain herbaceous vegetation to provide at least 80 percent ground cover throughout the year.

The following items will be planned and applied, as needed:

- Storm damage repair.
- Sediment removal – when 6 inches of sediment has accumulated at the field border – cropland interface.
- Shut off sprayers and raise tillage equipment to avoid damage to field borders.
- Shape and reseed border areas damaged by chemicals, tillage or equipment traffic.
- Fertilize, mow, harvest, and control weeds to maintain plant vigor.
- Ephemeral gullies and rills that develop in the border will be filled and reseeded.